

Water Operations for Stage 1

Water Quality Protection and Improvement.

Water quality in the delta can be affected by common programs of CALFED, operational measures proposed by CALFED to protect aquatic resources, discharges by entities outside of CALFED, and operational changes due to other state and federal actions. Water height in delta channels can limit the ability of some users to obtain supplies and can also be affected by actions within and outside of CALFED. *(Agree with the previous sentence and agree that it needs mention but am not sure how it fits in this section).* CALFED program goals require that the net effect of the CALFED program is an improvement in quality and reliability for all users.

Operational changes to enhance the protection of aquatic resources and export supplies have the potential to reduce water quality, particularly in the fall and early winter. Such impacts, if unavoidable, should be mitigated. Such mitigation could come from an increase in delta outflow at that season, by enhancing the performance of the water quality common program to address this need, or by arranging alternative water sources for sensitive uses (such as by trading high quality supplies that exceed the needs of agriculture for the use by municipal users that require high quality). ~~Alternatively, improvements in water quality due to the program at one time of year may offset negative impacts at another season. In addition, changes in water quality may not be of sufficient magnitude to affect the designated use. ; for example total dissolved solids (TDS) concentrations that would be unacceptable for springtime crops might have no impacts on asparagus crops in the fall.~~ *I believe the EPA has a no degradation principle so lets be careful with this one. I told you today that I think it would be unnecessarily burdensome if the urbans insisted that every day look better in every way at every location every year so there is some room here. Suggested language which I think gets your point across while protecting urban and Delta quality issues:*

If water quality is degraded for an existing beneficial user of Delta water as a result of a water supply or ecosystem CALFED action/measure then that impact must be mitigated. This mitigation, together with water quality common programs, must provide a net benefit to Delta water users who are sensitive to water quality. Water quality benefits will be measured relative to existing water quality.

In general, greater implementation of water quality and watershed common programs of CALFED are doubly beneficial because they can minimize concerns about the impacts of operational changes for fish and exports. Until **effective** water quality common programs are fully implemented **that address the needs of urban users and the ecosystem** there will be greater concerns about the impacts of operational impacts on water quality.

Operational changes for fishery protection have the potential to enhance water quality and such mutually beneficial actions should be given high priority. Thus, restricting export pumping ~~more~~ to the times when ~~flows are~~ **outflow is** high will tend to reduce the entrainment of ~~both~~ fish and bromides **concentration**. Increases in outflow in the spring can help move young fish out of the delta and improve export water quality. Similarly, increases in outflow in the fall can be timed to attract adult salmon and reduce seawater intrusion.

Operational changes also have the potential to decrease water quality particularly additional closure of the Delta Cross Channel (especially if combined with fish protective measures that ~~reduce the circulation of Sacramento River water through the south delta~~ **tend to shift more pumping to the fall and summer**). A screened diversion at Hood might reduce these water quality impacts but might conflict with other fishery goals. Thus, the management of the EWA to address water quality concerns may be a more broadly supportable solution but might require more water than required for fisheries alone.